PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION	See Form PCT/IPEA/416
33751-03		
International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US04/35196	22 October 2004 (22.10.2004)	24 October 2003 (24.10.2003)
International Patent Classification (IPC) or national classification and IPC		
IPC(7): F25B 49/00; F25D 17/04 and US Cl.: 62/176.1, 176.6; 236/44A, 44C		
Applicant		
FULLER, ANDREW C.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
   a. ☒ *(sent to the applicant and to the International Bureau)* a total of 4 sheets, as follows:
      ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items:
   - ☒ Box No. I Basis of the report
   - ☐ Box No. II Priority
   - ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - ☐ Box No. IV Lack of unity of invention
   - ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - ☐ Box No. VI Certain documents cited
   - ☐ Box No. VII Certain defects in the international application
   - ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
24 August 2005 (24.08.2005)	12 October 2005 (12.10.2005)
Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer Marc E. Norman Telephone No. 571-272-3750

Form PCT/IPEA/409 (cover sheet)(April 2005)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US04/35196

Box No. I Basis of the report

1. With regard to the **language**, this report is based on:
   - ☐ the international application in the language in which it was filed.
   - ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of:
     - ☐ international search (under Rules 12.3 and 23.1(b))
     - ☐ publication of the international application (under Rule 12.4(a))
     - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
   - ☐ the international application as originally filed/furnished
   - ☒ the description:
     pages 1-12 as originally filed/furnished
     pages* NONE received by this Authority on _____
     pages* NONE received by this Authority on _____
   - ☒ the claims:
     pages NONE as originally filed/furnished
     pages* NONE as amended (together with any statement) under Article 19
     pages* 13-16 received by this Authority on 24 August 2005 (24.08.2005)
     pages* NONE received by this Authority on _____
   - ☒ the drawings:
     pages 1-8 as originally filed/furnished
     pages* NONE received by this Authority on _____
     pages* NONE received by this Authority on _____
   - ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☒ The amendments have resulted in the cancellation of:
   - ☐ the description, pages _____
   - ☒ the claims, Nos. 28-30
   - ☐ the drawings, sheets/figs _____
   - ☐ the sequence listing (*specify*): _____
   - ☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
   - ☐ the description, pages _____
   - ☐ the claims, Nos. _____
   - ☐ the drawings, sheets/figs _____
   - ☐ the sequence listing (*specify*): _____
   - ☐ any table(s) related to the sequence listing (*specify*): _____

** If item 4 applies, some or all of those sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US04/35196

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 1-27	YES
	Claims NONE	NO
Inventive Step (IS)	Claims 1-27	YES
	Claims NONE	NO
Industrial Applicability (IA)	Claims 1-27	YES
	Claims NONE	NO

2. Citations and Explanations (Rule 70.7)

Claims 1-27 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest the controller activating the dehumidifier when the actual building material moisture is higher than the desired building material moisture (claims 1-8); the building material moisture sensor being installed and connected to the controller (claims 9-18); or means for adjusting the humidity, moisture, and temperature to approximately equal to or below the preset, desired humidity, moisture, and temperature, the adjusting means being connected to the warning system (claims 19-27).

Claims 1-27 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

---------- NEW CITATIONS ----------

WHAT IS CLAIMED IS:

1. A dehumidification system, comprising:

a dehumidifier;

a user interface;

a humidity sensor for determining relative humidity of an area;

means carried by said user interface for selecting a desired humidity for said area;

a building material moisture sensor for measuring the building material moisture in said area;

means for selecting a desired building material moisture; and

a controller interconnected with said dehumidifier, said humidity sensor, said desired humidity selecting means, said building material moisture sensor, and said desired building material moisture selecting means, wherein said controller activates said dehumidifier when the relative humidity is higher than said desired humidity, and wherein said controller activates said dehumidifier when the actual building material moisture is higher than said desired building material moisture.

2. The dehumidification system as recited in claim 1, wherein said dehumidifier, said user interface, and said controller are connected by electrical wiring.

3. The dehumidification system as recited in claim 1, wherein said dehumidifier, said user interface, and said controller are connected by wireless connection.

4. The dehumidification system as recited in claim 1, further comprising a plurality of fans that are connected to said dehumidifier.

5. The dehumidification system as recited in claim 1, wherein said user interface unit includes a service light.

6. The dehumidification system as recited in claim 1, wherein said user interface unit includes a display, wherein said display shows the relative humidity, said desired humidity, and the temperature of said area.

7. The dehumidification system as recited in claim 1, wherein said user interface unit includes a power input.

8. The dehumidifier as recited in claim 1, wherein said controller activates said dehumidifier either when the relative humidity is higher than said desired humidity or

when the actual building material moisture is higher than said desired building material moisture.

9. A method for maintaining the moisture level of an area at or below a pre-selected level, comprising:

installing a dehumidifier;

installing a user interface;

installing a humidity sensor for determining relative humidity of an area;

installing means for selecting a desired humidity for said area;

installing a building material moisture sensor for measuring building material moisture;

installing a controller; and

connecting said dehumidifier, said user interface, said humidity sensor, said desired humidity selecting means, said building material moisture sensor, and said controller, wherein said controller activates said dehumidifier when the relative humidity is higher than said desired humidity.

10. The method as recited in claim **9**, further comprising installing at least one fan.

11. The method as recited in claim **10**, further comprising connecting said at least one fan to said dehumidifier.

12. The method as recited in claim **9**, further comprising installing means for selecting a desired building material moisture, wherein said controller activates said dehumidifier when the actual building material moisture is higher than said desired building material moisture.

13. The method as recited in claim **9**, wherein said user interface has a display that is remote from said dehumidifier.

14. The method as recited in claim **13**, wherein said display includes said selecting means.

15. The method as recited in claim **14**, further comprising selecting a desired humidity.

16. The method as recited in claim **9**, wherein said connecting step is done by wireless connection.

17. The method as recited in claim 9, wherein said connecting step is done by electrical wiring.

18. The method as reciting in claim 9, further comprising connecting said dehumidifier, said user interface, said humidity sensor, said selecting means, and said controller to an alarm system.

19. A monitoring system, comprising:

a sensor for determining the humidity, moisture, and temperature of an area;

a first controller that is connected to said sensor, said first controller capable of receiving multiple inputs including a humidity input, a moisture input, and a temperature input;

means for communicating the humidity, moisture, and temperature to said first controller;

means for warning when the humidity, moisture, and temperature within said area is above a preset, desired humidity, moisture, and temperature, said warning means being connected to said first controller; and

means for adjusting the humidity, moisture, and temperature to approximately equal to or below the preset, desired humidity, moisture, and temperature, said adjusting means being connected to said warning means.

20. The monitoring system as recited in claim 19, wherein said adjusting means includes a dehumidification system, comprising:

a dehumidifier;

a user interface;

a humidity sensor for determining relative humidity of an area;

means carried by said user interface for selecting a desired humidity for said area; and

a second controller interconnected with said dehumidifier, said humidity sensor, and said selecting means, and wherein said second controller activates said dehumidifier when the relative humidity is higher than said desired humidity.

21. The monitoring system as recited in claim 20, further comprising a ventilation system connected to said dehumidification system.

22. The monitoring system as recited in claim **19**, wherein said adjusting means includes a dispatched repair person

23. The monitoring system as recited in claim **19**, further comprising means for warning said first controller when said adjusting means has malfunctioned and is in need of maintenance.

24. The monitoring system as recited in claim **19**, wherein said sensor, said first controller, said communicating means, said warning means, and said adjusting means are electrically connected.

25. The monitoring system as recited in claim **19**, wherein said sensor, said first controller, said communicating means, said warning means, and said adjusting means are connected by radio frequency communication.

26. The monitoring system as recited in claim **19**, wherein said sensor, said first controller, said communicating means, said warning means, and said adjusting means are connected by wireless communication.

27. The monitoring system as recited in claim **19**, wherein said sensor includes multiple sensors in a single housing for detecting a combination of humidity, moisture, and temperature.